U. S. Steel Corporation Clairton Works:
Blast Furnace Blowing Engine Building
400 State Street
Clairton
Allegheny County
Pennsylvania

HAER No. PA-49A

HAER
PA,
2-CLAIR,
1A-

PHOTOGRAPHS

HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, D. C. 20240

HAER
PA,
2-CLAIR,
1A-

HISTORIC AMERICAN ENCINEERINC RECORD

U. S. STEEL CORPORATION CLAIRTON WORKS: BLAST FURNACE BLOWINC ENGINE BUILDINC

HAER No. PA-49A

Location: 400 State Street
Clairton, Allegheny County, Pennsylvania

UTM: 17.595740.4460150
Quad: McKeesport, Pennsylvania

Date of Construction: 1903

Builder/Designer: Southwark Foundry & Machine Company
Pittsburgh, Pennsylvania

Present Use: Not in use

Significance: This building houses seven vertical cross-compound condensing steam engines. These blowing engines originally produced wind for the Clairton Works blast furnaces. In ca. 1961, two furnaces (#6 and #7) were torn down.

Specifications:

Type: Cross-compound Steeple Condensing
Bore & Stroke: 48x84x84x60
RPM: 40 (60 max) PSI: 140-150 SAT
Valves: HP, Corliss; LP, Corliss Double Ported
Connect. Rod & Ends: 12'6" wedge adjustment
Const. of Crank: Porter type
Flywheel Dia. & Face: 20 feet; rim section 418.5"^{2}
Flywheel Type & Const.: Sectional C. I 98.700#
Governor: Flyball
Bearings: 2.22"x40"
Design Function: Make wind for blast furnaces
Boiler Type/Setting/Fuel: orig. 40 300 WP B&W boilers with blast fce. gas
Weight: 800,000 lbs.
Cost: $45,000
Air Pressure: 16-1/2 psi average; 30 psi max.
Inlet valve - Cridiron positive Area: 732 in^2
Outlet valve - Gridiron automatic: Area: 528 in^2
Capacity: 770 ft^3 free air/rev.
Diameter Discharge pipe: 30"
Steam Pipe diameter: 15"
HP Exhaust Pipe diameter: 15"
Receiver: 38"x19'0"
LP Exhaust Pipe diameter: 26"

Condenser No. 1

Type: Weiss Counter Current
Capacity: 15,000 HP
140,000 lbs. steam/hr. condensed
Size steam inlet: 42"x72"
Size water inlet: 30"
Water required/hr: 420,000
Source water supply: Blast furnace cooling plates
Average vaccuum: 24"
Also served power engines, river pumps (none of which remain)

Box bed: 14', 9" x 9'1"; two per engine

Prepared for transmittal by: Jean P. Yearby, 1984, from data compiled by Field Curry, 1975